

CLAIMS

1. A frequency setting unit for a radio telecommunications network wherein base stations transmit at an accurately set frequency derived from a reference signal, the network comprising a first, reference base station (23) controlled by a first controller (40) transmitting signals at a first frequency, and a second base station (22) controlled by a second controller (41) and transmitting at a second frequency; the frequency setting unit comprising:

a radio receiver (61a) for receiving signals from the first base station (23);

analysis apparatus (61b) for analysing the received signals to determine the first frequency; and

frequency setting apparatus (41a) responsive to the analysis apparatus (61b) and coupled to the second base station (22) by means of the second controller (41) for adjusting the second frequency with the aim of establishing a desired relationship between the second frequency and the first frequency.

2. A frequency setting unit as claimed in claim 1, wherein said reference signal is provided by a reference clock (54) where a pulse train (53) is sent to said first controller (40).

3. A frequency setting unit as claimed in claim 2, wherein said sent pulse train is used by the first controller (40) to derive a set of pulse trains (55) that are sent to said first base station (23).

4. A frequency setting unit as claimed in claim 1, wherein the second base station (22) comprises a clock and the frequency setting apparatus (41a) is capable of transmitting a clock setting signal to the second base station for setting the clock.

5. A frequency setting unit as claimed in claim 4, wherein the clock setting signal comprises a stream of clock pulses.

6. A frequency setting unit according to claim 4 or 5, wherein said clock setting signal to the second base station for setting said clock being derived from an internal clock within the second controller (41).
7. A frequency setting unit according to claim 4 or 5, wherein said clock setting signal to the second base station for setting said clock being derived straight from the detected frequency of said analysis apparatus (61a).
8. A frequency setting unit according to any preceding claim, wherein said desired relationship is such that the second frequency matches the first frequency in an absolute manner.
9. A frequency setting unit according to any preceding claim, wherein said desired relationship is such that the second frequency is a multiple of the first frequency by shifting the frequency of said internal clock within the second controller.
10. A frequency setting unit according to any preceding claim, wherein the said signals from the first base station (23) are broadcast signals.
11. A frequency setting unit as claimed in any preceding claim, wherein the first base station (23) and the second base station (22) are of the same radio telecommunications network.
12. A frequency setting unit as claimed in any preceding claim, wherein the first base station (23) and the second base station (22) are of different radio telecommunications networks.
13. A frequency setting unit as claimed in any preceding claim, comprised in said second controller (41).

14. A frequency setting unit as claimed in any preceding claim, wherein the second base station is connected to another telecommunications network by means of an asynchronous connection.

15. A frequency setting unit as claimed in claim 8, wherein the asynchronous connection is an internet protocol connection.

16. A frequency setting unit as claimed in any preceding claim, wherein said telecommunications network is operable according to the GSM (Global System for Mobile communications) standard or a derivative thereof.

17. A method for frequency setting in a wireless telecommunications network such that base stations transmit at an accurately set frequency derived from a reference signal, said network comprising a first, reference base station (23) controlled by a first controller (40) transmitting signals at a first frequency, and a second base station (22) controlled by a second controller (41) and transmitting at a second frequency; the method comprising the steps of:

receiving signals from the first base station (23);

analysing the received signals to determine the first frequency; and

adjusting the second frequency with the aim of establishing a desired relationship between the second frequency and the first frequency.